M-104E
c.2

OVERVIEW OF DISSEMINATION AND ANALYTICAL ACTIVITIES OF THE CANADA HEALTH SURVEY, AND SURVEY OF MORE RECENT HEALTH SURVEY APPLICATIONS

Presented at the University of Ottawa
Health Forum, August 14, 1985

O.B. Adams,
Research and
Analysis Section,
Health Division,
Statistics Canada.

CAUTION

In my introductory remarks to this session, I would like to briefly survey the scope of recent health survey research and development activities in Canada. I must emphasize that I am using a very narrow definition of health survey, this is to say a survey that has a great deal of health content and that is generally representative of the civilian non-institutionalized Canadian population. By doing so I know that I am excluding a number of sub-national surveys, and also those national surveys that concentrate on a particular population sub-group.

INTRODUCTION

Until recently, national health-related surveys of the household population have been conducted rather infrequently in Canada. The first of this type was the Canadian Sickness Survey of 1950-51, which was designed to gather data in each of three major areas; the incidence and prevalence of illness, health care utilization, and expenditure on health care(1). The Nutrition Canada Survey was conducted between 1970 and 1972 with the objectives of determining the prevalence of nutritional diseases in the Canadian population, and examining food consumption patterns across Canada(2).

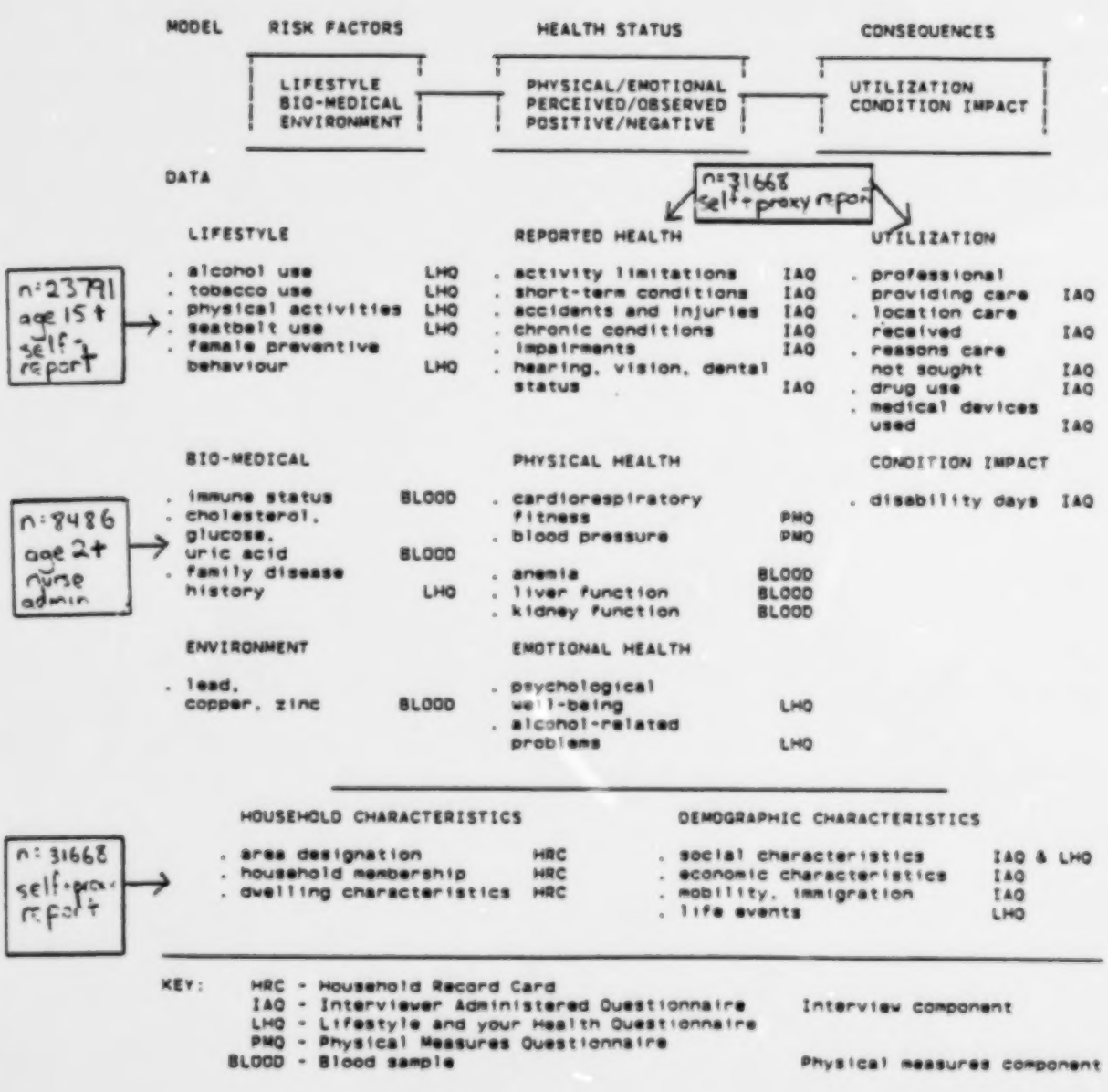
The Canada Health Survey was conducted in 1978-79 and was based on interviews conducted with some 31,000 Canadians from 12,000 families. The survey was sponsored jointly by Health and Welfare Canada and by Statistics Canada. The data items collected correspond roughly to the model of health envisioned in A New Perspective on the Health of Canadians(3). The model and its key concepts/variables are depicted in Figure 1. In comparison to the earlier Sickness Survey, there was a much greater emphasis on lifestyle habits (e.g. smoking, exercise, alcohol use) and no data were collected on out-of-pocket health expenditures. The survey employed several data collection instruments. An Interviewer Administered Questionnaire (IAQ) was used to gather the basic data on health status, health care utilization and levels of disability. A questionnaire called Lifestyle and Your Health (LHQ) was completed by respondents aged 15 and over, and was used to collect information on lifestyle and preventive health behaviours, and emotional health. The Physical Measures Questionnaire (PMQ) was administered by a registered nurse, and collected data on such variables as height, weight and blood pressure. The approximate sample sizes for each part of the survey are indicated on Figure 1.

DISSEMINATION OF RESULTS

The primary mode for dissemination of the survey data was a report published in June, 1981, entitled The Health of Canadians: Report of the Canada Health Survey(4). This report comprised statistical tabulations, mostly bivariate in nature, along with descriptive text, and relevant methodological discussion. The tables were organized around the various themes of data collection. At the same time that the publication was released, a set of tabulations for each province was also made available.

Since the release of the final report, requests for more detailed tabulations have been processed in the Research and Analysis Section of the Health Division of Statistics Canada. These have been carried out on a partial cost-recovery basis, depending primarily on whether or not the tabulation is of general interest. The reliability of the survey estimates has been a key factor in determining if a tabulation can be provided.

Figure 1 A Summary of Data Items: The Canada Health Survey



In 1982, the Canada Health Survey Public Use File became available. This file contains the responses of the complete sample (n = 31,668) and as much detail has been preserved in the public use file as possible, subject to confidentiality considerations. The contents of this micro-data tape are described in the code book, which is entitled the Canada Health Survey Data Users' Guide, available from the Research and Analysis Section, Health Division, Statistics Canada. The price of the tape is $300, and to date 33 have been sold, primarily to various departments of Canadian universities. We have seen several manuscripts that have been submitted for publication that are based on the analyses carried out on the micro-data tape, and it is quite likely that the data will continue to be analyzed for some time to come.

ANALYSES

Present and future analytical work based on the Canada Health Survey can most probably be placed into either of two principal categories; bivariate and multivariate analysis of selected aspects of health at the individual (micro) level of analysis, and secondly, the calculation and application of rates of health behaviours or measures to the appropriate sub-groups (age, sex, etc.) in the Canadian population to provide a societal (macro) level overview of health status. A further area of research that has resulted is in the development of techniques of statistical analysis and inference that take account of the sampling design of the survey(5).

INDIVIDUAL LEVEL ANALYSIS

The data have provided the basis for detailed analyses on several topics of health. These have appeared, or are about to appear in journals or have been read at conferences. It is anticipated that a final accounting will be much more extensive especially as more researchers gain access to the micro-data tape. Some of the topical areas that have been pursued are noted below, and the references are given in the bibliography.

HEALTH CARE UTILIZATION

Physician use(6), Hospital use(7), Dental care use(8).

LIFESTYLE

Alcohol Consumption (9,10,11), Smoking(12), Multi-variate(13) Health behaviour (14,15)

EMOTIONAL HEALTH

Bradburn scale(16), Health Opinion Survey(17)

Other topics that have been, or are under investigation include immunization(18,19), occupation(20), levels of disability(21), and breast self-examination(22).

LONGITUDINAL ANALYSIS (Mortality Follow-up)

Over the last several years, the Vital Statistics and Disease Registries Section of the Health Division has been developing a computerized mortality data base, which permits the linkage of information on the death certificate (e.g. name, cause of death) to another file, which might contain occupational data, for example(23).

This mortality data base includes virtually all deaths in Canada back to 1950, thus it is possible to do both historical and prospective follow-up studies. The variety of information on the Canada Health Survey provides an excellent baseline from which to examine the relationship between either excess or cause-specific mortality and various lifestyle and socio-economic factors. Mortality follow-up studies are under way on both the Nutrition Canada(24) and Canada Health Survey data bases.

MACRO-LEVEL ANALYSIS

Throughout the sixties and seventies there has been growing interest in what are generally termed "social indicators". These indicators are intended to provide some measure of societal progress towards certain goals, or more generally, to indicate something about "quality of life". Thus, for example, while life expectancy can tell us how long a person may expect to live, it tells us nothing about what sort of life he/she may expect to lead, whether he/she will remain free of physical disability until some advanced age or whether he/she may expect to undergo lengthy periods of physical disability.

Based on a model first proposed by Sullivan of the National Centre for Health Statistics(25) it has been possible to combine mortality and long term care data with disability rates from the Canada Health Survey to present "healthfulness of life" indicators that break down total life expectancy into years spent in states ranging from no disability to years spent in long term care facilities(26). More recently this approach has been extended to take account of the impact that various causes of ill-health have on overall composite health status indicators(27), and healthfulness indicators have also been presented for New Brunswick(28).

SUB-NATIONAL HEALTH SURVEYS

One other important application of the Canada Health Survey is its potential to inform local survey activity. One dimension of this role could be the ability of survey planners to draw upon the extensive methodological work (and documentation) that went into the Canada Health Survey.

For example, several requests (mostly international) have been received for training materials and interviewer's manuals from CHS. In the general case, national survey results can also provide a basis for comparison with local survey data.

Returning to the first dimension CHS has been cited as playing a role in the development of a survey of the catchment area of the Department of Community Health of the Montreal General Hospital(29) and in the development of the pilot test of the Québec Health Survey(30).

On a more general note, local health surveys have been conducted in the Ottawa-Carleton area in 1978/79(31) and 1984(32), and in Metropolitan Toronto (1983)(33). It is unlikely that comes close to summarizing the scope of local health survey activity in Canada.

RECENT NATIONAL HEALTH-RELATED SURVEY ACTIVITY

Since the Canada Health Survey several health-related national surveys have either been conducted or are about to go into the field. These are enumerated in Figure 2 and will be annotated below.

Figure 2

Household Health-Related Surveys in Canada
1950-1985

Canadian Sickness Survey	1950-51
Nutrition Canada Survey	1970-72
Canada Health Survey	1978-79
Canada Fitness Survey	1981
Canadian Health & Disability Survey	1983-84
Health Promotion Survey	1985
General Social Survey	1985
1986 Census (Screening Question)	

CANADA FITNESS SURVEY 1981

The objective of this survey was to provide information on physical activity patterns and fitness levels for the Canadian population. Data were obtained from 11,900 households representing approximately 31,000 persons. To date several reports have been published, in which several recommendations have been made concerning the promotion of physical fitness(34).

CANADIAN HEALTH AND DISABILITY SURVEY 1983-84

In February 1981, the Special Parliamentary Committee on the Disabled and Handicapped published its report "Obstacles", and one of its recommendations was;

> "That the Federal Government direct Statistics Canada to give a high priority to the development and implementation of a long-term strategy which will generate comprehensive data on disabled persons in Canada, using population-based surveys and program data"(35).

In response to this recommendation, a survey was developed, in which a set of 19 screening questions (based on the Activities of Daily Living) was administered as a supplement to the Canadian Labour Force Survey in October 1983 and June 1984. Those who were "screened in" by reporting that they had trouble performing any one of 17 ADL's (e.g. walking up and down a flight of stairs) were interviewed further on the nature of their disability and its effect on the respondent's way of life in areas such as education, employment and transportation. Highlights from the survey have been published(36) and a more detailed report is in preparation.

HEALTH PROMOTION SURVEY 1985

This study has been conducted by Statistics Canada for Health and Welfare Canada in June of 1985. Its objectives are to collect baseline data on the knowledge, attitudes and behaviour of Canadians about health issues such as; alcohol use, smoking, exercise, safety and nutrition. It is planned to repeat this survey in three years to evaluate certain health promotion programs initiated by Health and Welfare Canada. It is expected that results will be available in 1986.

GENERAL SOCIAL SURVEY 1985

This is a new annual household survey that has been developed by Statistics Canada with two principal objectives: first to gather data on social trends in order to monitor changes in Canadian society over time, and second to provide information on specific issues of current or emerging interest. This will be done by dividing each survey into three components:

Classification content - demographic and socio-economic variables.

Core content - social trends data. It is planned to rotate topics such as health, education and culture through the survey on a periodic basis to five years.

Focus Content - intended to provide data on a specific issue, for example, youth unemployment.

The sample size of each cycle of GSS will be approximately 10,000 households, and it is expected that telephone interviewing, based on a sample selected through random digit dialing (RDD) will play a major role in the survey. The first cycle of GSS will be conducted in September, 1985. Core content will focus on health in the first cycle, and focus content will concentrate on support networks for elderly Canadians. Results are expected for 1986.

1986 CENSUS OF POPULATION

As part of the 1986 Canadian Census of Population, a screening question for activity restriction and long-term disability will be administered to a sample of approximately 20% of the population(37). It is planned to use those "screened in" by this question as a sampling frame for a more detailed Post-Censal Disability Survey, which is currently under development.

REFERENCES

(1) Dominion Bureau of Statistics and National Health and Welfare. Illness and Health Care in Canada: Canadian Sickness Survey, 1950-51. Statistics Canada Catalogue 82-518, Ottawa:Queen's Printer, 1960.

(2) Nutrition Canada. Nutrition: A National Priority. (Department of National Health and Welfare). Ottawa:Information Canada, 1973.

(3) Lalonde, Marc. A New Perspective on the Health of Canadians. Ottawa:Government of Canada, 1974.

(4) Health and Welfare Canada and Statistics Canada. The Health of Canadians: Report of the Canada Health Survey. Cat.82-538E. Ottawa:Minister of Supply and Services Canada, 1981.

(5) Binder, D.A., M. Gratton, M.A. Hidiroglou, S. Kumar and J.N.K. Rao. "Analysis of Categorical Data from Surveys with Complex Designs: Some Canadian Experiences". Survey Methodology 10:141-156,1984.

(6) Broyles, Robert W., Pran Manga, David A. Binder, Douglas E. Angus and André Charette. "The Use of Physician Services under a National Health Insurance Scheme: An Examination of the Canada Health Survey". Medical Care 21:1037-1054,1983.

(7) Manga, Pran, Robert Bryoles and Douglas Angus. "The Use of Hospital and Physician Services under a National Health Insurance Program: An Examination of the Canada Health Survey". Pp.3-59 in J.A. Boan (ed.) Proceedings of the Second Canadian Conference on Health Economics. Regina, Sask:University of Regina, 1984.

(8) Charette, A.. Dental Care Utilization in Canada: An Analysis of the Canada Health Survey, MHA thesis, University of Ottawa, work in progress.

(9) Andrews, Florence K. and Neville Layne. "Drinking Patterns in Canada: Variations in Drinking Frequencies and Demographic Characteristics of Current Drinkers". Canadian Journal of Public Health 76:38-42,1985.

(10) Richman, Alex and Reg Warren. "Abstainers, Former Drinkers and Current Drinkers: A Comparison of Health Problem Rates in the Canada Health Survey". Paper presented to the International Conference on Alcohol Abuse and Alcoholism, Calgary, 1985.

(11) Richman, Alex and Reg Warren. "Alcohol Consumption and Morbidity in the Canada Health Survey: Inter-beverage Differences". Drug and Alcohol Dependence. to appear.

(12) Collishaw, Neil E. and Gordon Myers. "Dollar Estimates of the Consequences of Tobacco Use in Canada, 1979". Canadian Journal of Public Health 75:192-199,1984.

(13) Breslaw, Jon A. The Determinants of Health in Canada. Research Study to be published by Health Division, Statistics Canada.

(14) Stephens, Thomas. "Healthy Lifestyle for All by the Year 2000?" Paper presented to the Annual meeting of the Canadian Public Health Association, 1985.

(15) Stephens, Thomas. "Health Practices and Health Status: Evidence from the Canada Health Survey". Paper to be published.

(16) McDowell, Ian and Ed Praught. "On the Measurement of Happiness: An Examination of the Bradburn Scale in the Canada Health Survey". American Journal of Epidemiology 116:949-958,1982.

(17) McDowell, Ian and Ed Praught. "Survey Measurements of Emotional Well-being: The Health Opinion Survey and the Bradburn Scale Compared". Canadian Journal of Public Health. to appear.

(18) Neumann, Peter W. and John M. Weber. "Re-Evaluation of Immune Status to Measles, Mumps and Rubella Viruses in the Canada Health Survey Population and the Indochinese Refugee Population". Canadian Journal of Public Health 75:270-272,1984.

(19) Manga, Pran, John Frank, Fran Scott and André Charette. An Examination of Immune Status and Immunization Behaviour in Canada: An Analysis of the Canada Health Survey. Research study to be published by Statistics Canada.

(20) Armstrong, Ben. Exploiting the Canada Health Survey as a Resource for the study of Occupational Health Risks. Research Study in Progress.

(21) Fedyk, Frank. Disabled Persons: The Health Characteristics of Persons with an Activity Limitation. mimeo, Policy Planning and Information Branch, Health and Welfare Canada, Ottawa, 1982.

(22) Angus, E.D., P. Manga and R.W. Broyles. "Factors Influencing Breast Self-Examination: An Analysis of the Canada Health Survey". Paper presented to the annual meeting of the Canadian Public Health Association, 1983.

(23) Smith, Martha E. and Howard B. Newcombe. "Automated Follow-up Facilities in Canada for Monitoring Delayed Health Effects". American Journal of Public Health 70:1261-1268,1980.

(24) Smith, Martha E. and Howard B. Newcombe. "Uses of the Canadian Mortality Data Base for Epidemiological Follow-Up". Canadian Journal of Public Health 73:39-46,1982.

(25) Sullivan, Daniel F. "A Single Index of Mortality and Morbidity". HSMHA Health Reports 86:347-54,1971.

(26) Wilkins, Russell and Owen Adams. Healthfulness of Life. A Unified View of Mortality, Institutionalization and Non-Institutionalized Disability in Canada, 1978. Montreal:Institute for Research on Public Policy, 1983.

(27) Dillard, Sylvie. Durée ou qualité de la vie? Conseil des affaires sociales et de la famille. Québec:Gouvernement du Québec, 1983.

(28) Robichaud, Jean-Bernard. Objective 2000: To Live in Good Health in French in New Brunswick. Volume I:Francophone Health. Dieppe, N.B.:Acadian Society of New Brunswick.

(29) O'Loughlin, Jennifer L. "National Health Surveys to be Used for Local Health Planning?" Pp. 565-570 in Fernand Landry (ed.) Health Risk Estimation, Risk Reduction and Health Promotion. Ottawa:Canadian Public Health Association, 1983.

(30) Kovess, V. Evaluation de l'état de santé de la population des territoires des DSC de Verdun et de Rimouski. Tome I et Tome II. Montréal:Unité de recherche, Centre hospitalier Douglas, 1985.

(31) Health Care Research Unit. University of Ottawa. Ottawa Carleton Health Survey. Ottawa-Carleton Regional District Health Council, 1979.

(32) Corber, S. A Report on the Health Status of Adults in Ottawa-Carleton: The Ottawa-Carleton Regional Health Unit Community Health Survey. Ottawa-Carleton Regional Health Unit, 1985.

(33) Macpherson, A.S. The City of Toronto Community Health Survey: A Description of the Health Status of Toronto Residents, 1983. Toronto:Department of Public Health, 1984.

(34) Canada Fitness Survey. Fitness and Lifestyle in Canada. Ottawa:Fitness Canada, 1983.

(35) Special Committee on the Disabled and the Handicapped. Obstacles. Ottawa:Minister of Supply and Services Canada, 1981.

(36) Statistics Canada. Health Division. Highlights from the Canadian Health and Disability Survey. Cat. 82-563E. Ottawa:Minister of Supply and Services Canada, 1985.

(37) Statistics Canada and Demographic Statistics Branch. 1986 Census of Population Questions. Ottawa:Statistics Canada, 1985.